Excerpt fromMonica Vezzosi**,** *Critical thinking and reflective practice: The role of information literacy*, pp. 13-15

**4.3. Information literacy promoting critical thinking. Models and experiences.**

Information literacy programs and activities being developed in most Universities and Colleges all around the world can be grouped in three general categories, related to different educational approaches.

• Behaviourist approach

• Constructivist approach.

• Relational approach.

The *behaviourist approach* requires that learners, to be described as information literate, exhibit certain characteristics and demonstrate certain abilities. A strong attention is put on desirable user’s behaviour and outcomes in terms of skills more than process. Eisenberg and Berkowitz’s Big Six Skills (1990) is a well known model providing a series of steps that students need to negotiate when an information problem is to be solved (defining task, creating information seeking strategies, locating and accessing information, using information, synthesising information and evaluating information). In this model, information literacy can be described as a systematic information behaviour.

The behaviourist approach, adopted also in the ACRL standards (2000) and in many learning programs (in particular in the United States) is subjected to a certain criticism. One critique is related to the danger of a “thick a box” methodology, where a complex set of competencies is reduced to small discrete units. A complain about ACRL Standards (Webber and Johnston 2000) is in fact that they can encourage a kind of “fragmentation” of knowledge as well as the assumption that the skills have been mastered once each unit of information literacy learning programs has been completed. The “surface learning” approach (with short term focus) does not help learners reflect on what they are learning (Harley, Dreger et al. 2001).

A number of learning programs, both class activities and self directed activities (with a great spreading of online courses and tutorials) put the focus on research skills, and, despite critical thinking and evaluation are listed among expected outcomes, contents and activities are often limited to instructions on “how to do”. However, online instructions and tutorials, virtual library tours and the widespread “50 minutes one-shot sessions” are now showing their limits among information professionals involved in teaching activities (Boff and Johnson 2002; Brown, Murphy et al. 2003). The instructions on how to identify and search information resources have only a temporary positive effects on learners, and don’t offer them the added value of reflective practice on their research process. Edwards and Bruce (2002) think that the skill-based approach to teaching and learning, particularly in the electronic domain, lacks didactic power because of the changing nature of technology contents.

We need something that emphasises reflective competence and the ability to continue to learn.

Furthermore, as Petrowski notes (1999, quoted by Webber and Johnston 2000) in the same ALA Website on Information literacy, there is a statement expressing the limits of the ACRL standards!:

Information literacy is far more fluid and complex than American standards and guidelines might suggest.

The *constructivist approach* finds its roots in the educational theories of Bruner, Vygotsky, Kelly. Learning is viewed as a process of construction in which each student is actively involved in building a new understanding on the basis of what is just known. According to Kuhlthau (1993), who ideated a widely adopted model of information search process, constructivism is particularly well suited for the new environment of digital libraries. Students are taken out of the “predigested” 14 format of textbook into the use of digital resources, so that skills and strategies, acquired during the information search process, are transferable into real world’s new situations. In the constructivist approach, students

learn to think through issues that do not have prescribed responses or pre-set solutions (Kuhlthau 1993).

In fact, students learn to identify what is important for them and construct their individual “new meaning”. The Kuhlthau model is a six-stage process (introduction, selection, exploration, formulation, collection, presentation) which has the important quality of giving attention to the emotional aspect of learning. Learning is a “holistic experience”, accompanied by deep feelings and emotions. The feeling of anxiety and uncertainty that occurs in the initial stage of the research process, is the “zone of intervention” (Vygotsky) in which the instructor can provide guidance and assistance to learners. As a “coach”, the librarian can help students in constructing their understanding by designing and implementing learning situations with particular strategies: collaborating, conversing, charting, composing, acting and reflecting, feeling and formulating, predicting and choosing, interpreting and creating. Acting and reflecting are the activities more strictly linked to critical thinking, and librarians’ role is to guide students to reflect on their action throughout the stages of the information search process. Also interpreting and creating involve reflective activity, since interpreting is based on personal construct built from past experience. The “products of mind” (Bruner 1982) are at least the product of the individual process in which students make connections between various information, extend their own ideas and create something new.

A number of learning programs are based on Kuhlthau’s work. Her approach is the starting point of many problem-based, case-based information literacy learning activities. According to Brandt (1997), Dennis (2001), Macklin (2001) Brock Enger (2002), D’Angelo (2003), and many other authors, in order to make the information search process meaningful for students and to provide a “learning environment” stimulating a reflective approach, the Problem-Based Learning is a suitable methodology. PBL takes everyday situation and creates learning opportunities from them. The model is collaborative in nature and uses interactive applications to engage groups of students in problem-solving. Also the action research is considered a valuable methodology to promote “reflective searching”. Using the action research cycle of planning, acting, recording and reflecting, not only research skills are learnt, but a reflective attitude on learning process is encouraged. This attitude, reflective and self-evaluative is at the core of the learning process (Snavely 2001, Kalman 2002, Hager, Sleet et al. 2003).

The *relational approach* proposed by Christine Bruce in her book “The Seven faces of information literacy” (1997) offers an alternative model to the behavioural and constructivist ones. The phenomenographic approach adopted by Bruce is widely used in higher education to explore qualitative variations in people’s experience or understanding of important phenomenon. It emphasises the need to help learners broaden their repertoire of existing conceptions or experiences and to understand the world also through other people’s perceptions. A “phenomenon” is the combination of different ways in which an aspect of the world is conceived or experienced, and each experience is described as a relation between individual and each external “object” with which they interact. We could define the phenomenographic approach as a complex, “ecosystemic” and holistic way to understand the world (Morin 1993).

Seven different ways of experiencing information literacy represent different ways in which individuals interact with information and, taken together, represent the “phenomenon” of information literacy: information technology for retrieval and communication, information sources, information control, knowledge construction, knowledge extension and wisdom (Bruce 1997; 1999; 2002).

The Bruce’s experiential model of information literacy interprets learning as a process which brings individuals to understand the world differently, rather than a means aimed to retain information 15 about the object of study. It interprets competence as experiencing thinking and learning, rather than mastering skills or knowledge which may have a short life. Critical thinking is strictly interlaced with reflective practice, and the conceptualisation of one’s own information needs represent the first step of the meta-cognitive activity (Webber and Johnston 2000)

Information literacy is about people’s ability to operate effectively in an information society. This involves critical thinking, information evaluation, conceptualising information needs, making effective use of information in problem-solving, decision making and research (Bruce 1997).

Learning plans following Bruce’s approach adopt methodologies which encourage reflection and involve participants in reviewing their learning methods, in analysing their development as literate people and in demonstrating progress over a period of time, exercising different aspects of information literacy in different contexts. The SCONUL model of Seven Pillar developed in United Kingdom, puts the emphasis on action research as a method to foster evaluation, comparison, reflection and exchange of views, both on the specific information problems and on the learning process itself (Society of College National and University Libraries 1999).

Both in the constructivist and in the relational models of information literacy, best practice is considered those learning activities that

• Interpret information literacy as integral to the learning process. (Daudelin Wood 1996; Rader 1997; Hardesty 1999; Simons, Young et al. 2000; Martin 2003).

• Create educational processes which are learner centred, experiential and reflective. (Carder, Willingham et al. 2001; Conteh-Morgan 2001; Bailin 2002; McDowell 2002; Brown and Murphy 2003).

• Create collaborative approaches and implement information literacy in academic curricula. (Rader 1995; Mac Donald, Rathemacher et al. 2000; Grafstein 2002; Rockman 2002; Parker 2003).

• Establish partnerships within and between organisations. (Williams and Zald 1997; Winner 1998; Raspa and Wards 2000; Bruce 2001; Hine, Gollin et al. 2002; Rader 2002; Bowden and DiBenedetto 2002).